



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,502	07/27/2006	Takuya Tsukagoshi	128883	6651
25944	7590	11/03/2009		
OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850			EXAMINER WILLIAMS, JEFFERY L	
			ART UNIT	PAPER NUMBER
			2437	
			MAIL DATE	DELIVERY MODE
			11/03/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/587,502	TSUKAGOSHI ET AL.	
	Examiner	Art Unit	
	JEFFERY WILLIAMS	2437	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4, 5, 7 – 9, and 12 – 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4, 5, 7 – 9, and 12 – 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

This action is in response to the communication filed on 6/19/09.

All objections and rejections not set forth below have been withdrawn.

Claims 4, 5, 7 – 9, and 12 – 14 are pending.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 4, the examiner notes the recitation, "*imaging the biometric information by a predetermined encoding scheme forms the record cryptographic identification information and the validation cryptographic identification information, and this image is used as a modulation pattern of the reference beam and the reproduction reference beam*" [lines 14-17] to be a grammatically improper recitation of a method step or step. Thus, it is unclear as to what method step or steps are being performed within the claim. For the purpose of examination, the examiner will presume for the applicant to recite method steps comprising "*imaging the biometric information by a*

predetermined encoding scheme, forming the record cryptographic identification information and the validation cryptographic identification information, and using this image as a modulation pattern of the reference beam and the reproduction reference beam”.

Claim 5 is rejected by virtue of dependency.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 5, 7 – 9, and 12 – 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horimai, U.S. Patent Publication, 2002/0114027 A1 in view of Ljungblad et al. (Ljungblad), “New Laser Pattern Generator for DUV Using a Spatial Light Modulator”.

Regarding claim 12, Horimai discloses:

an optical information recording medium having a holographic recording portion in which a hologram is formed, the hologram being formed by interference fringes when a reference beam subjected to spatial light modulation by record cryptographic identification information based on biometric information of a user and an object beam

subjected to spatial light modulation in accordance with information to be recorded are projected (Horimai, par. 2, 5, 127, 239, and par. 326 – “record cryptographic identification information based on biometric information of a user”);

a biological information sensor that can directly obtain the biometric information from the user (Horimai, par 327; fig. 74:501);

an information processing device for using the biometric information obtained by the biological information sensor as validation cryptographic identification information (Horimai, par. 327; fig. 74:502);

a reproduction optical system for projecting a reproduction reference beam similar to the reference beam at the time of recording to the holographic recording portion in order to reproduce the recorded information by generated diffracted light (Horimai, par. 170, 326);

a spatial light modulator for modulating the reproduction reference beam by the validation cryptographic identification information (Horimai, par. 170, 326, 330);

a calculation device for verifying an identity of the user on the basis of the information reproduced by the reproduction optical system and outputting a signal allowing or refusing the user by a validation result (Horimai, fig. 3:85,89; par. 133, 137; see also par. 325, 170, 330). Horimai discloses a holographic system utilizing biometric information of a user to control access to a service. If input biometric information matches reference biometric information, a validation result is reached, effectively identifying an individual user, and a signal for a complete reproduction or access is output.

wherein the record cryptographic information and the validation cryptographic information are modulation patterns of the biometric information by imaging the biometric information by a predetermined encoding scheme (Horimai, par. 327; fig. 74:502).

Horimai discloses the encoding of the biometric information by an encoding scheme (Horimai, par. 327). However, Horimai does not appear to explicitly disclose the specific encoding scheme, such as *dividing original images displaying the biometric information into a plurality of pixel blocks composed of a plurality of and the same number of pixels, detecting the number of ON pixels or OFF pixels in each pixel block, and converting the pixels of every pixel block into conversion pixel patterns predetermined on the number of ON pixels or OFF pixels basis in accordance with the detected number.*

Ljungblad discloses *dividing original images displaying the biometric information into a plurality of pixel blocks composed of a plurality of and the same number of pixels (Ljungblad, pg. 24, par. 3), detecting the number of ON pixels or OFF pixels in each pixel block, and converting the pixels of every pixel block into conversion pixel patterns predetermined on the number of ON pixels or OFF pixels basis in accordance with the detected number (Ljungblad, pg. 26, par. 1).*

It would have been obvious to one of ordinary skill in the art to employ the modulation mask creation techniques of Ljungblad within the system of Horimai. This would have been obvious because one of ordinary skill in the art would have been

motivated by the prior art's disclosure of increase speed and productivity (Ljungblad, Abstract; pg. 23, par. 1).

The combination enables:

wherein the pixel block is composed of an even number equal to or more than six of pixels, and the conversion pixel pattern has the same number of ON pixels and OFF pixels (Ljungblad, pg. 24, par. 3; pg. 26, par. 1).

Regarding claim 7, Horimai discloses:

a hardware for allowing or refusing the user in response to the allowing or refusing signal from the calculation device (Horimai, fig. 3; par. 170, 330 – herein Horimai discloses hardware for presenting a reproduction to the user in response the outputted reproduction signal allowing or refusing the user).

Regarding claims 8 and 9, the combination enables:

a client server is provided with the biological information sensor, the information processing device, the reproduction optical system, and the spatial light modulator (Horimai, fig. 74; par. 327);

a host server is provided with the calculation device (Horimai, fig. 2);

the client server and the host server are connected by a circuit (Horimai, fig. 75);

the client server outputs the reproduced personal identification information (Horimai, fig. 74:501,502);

and the host server outputs the allowing or refusing signal (Horimai, fig. 3; par. 133, 165, 170).

Regarding claims 13 and 14, the combination enables:

wherein the hologram is interference fringes between the object beam and the reference beam subjected to the phase spatial light modulation (Horimai, par. 239, 327).

Regarding claims 4 and 5, they are method claims essentially corresponding to the above rejected claims, and they are rejected, at least, for the same reasons.

Response to Arguments

Applicant's arguments filed 6/19/09 have been fully considered but they are not persuasive.

Applicant argues essentially that:

Thus, Ljunbglad discloses merely dividing the circuit into several column blocks such that each column block is located under an address electrode of a cell. However, these blocks are not composed of individual pixels, but rather a number of columns, as discussed above. Thus, Ljunbglad fails to disclose the above-quoted feature of independent claim 4. (Remarks, pg. 7, par. 3)

In response, the examiner respectfully notes that the applicant is mistaken. Ljungblad discloses generating SLM patterns using individual pixels (e.g. Ljungblad, Abstract; pg. 26, par. 1), each pixel individually represented (e.g. Ljungblad, fig. 1) within an integrated array of mirrors and addressable electrodes (i.e. the "spatial light modulator", e.g. Ljungblad, pg. 24, par. 1, 2). This aforementioned array of mirrors/electrodes is divided into blocks of individual address electrodes and associated mirrors (i.e. blocks of individual pixels) (e.g. Ljungblad, pg. 24, par. 3). Thus, contrary to the applicant's stated position, the examiner respectfully notes that Ljungblad clearly discloses that the blocks are composed of individual pixels.

In particular, as discussed above, Ljungblad discloses a number of column blocks containing columns. Ljungblad is only able to individually address each of these columns and is not able to individually address each individual pixel contained within those columns. As a result, it is impossible for Ljungblad to detect the number of ON pixels and OFF pixels in each pixel block. Therefore, Ljungblad fails to disclose the above-quoted feature of independent claim 4 and similar feature of independent claim 12. (Remarks, pg. 7, par. 4)

In response, the examiner respectfully notes that the applicant is mistaken. Ljungblad discloses that each pixel is represented by an individual address electrode (e.g. Ljungblad, fig. 1). Thus, each pixel can be individually addressed such that the

value of each pixel may be determined (e.g. Ljungblad, Abstract; fig. 1; pg. 24, par. 1) and it is possible for Ljungblad to detect the number of ON or OFF pixels in each block (e.g. Ljungblad, pg. 26, par. 1). Thus, contrary to the applicant's stated position, the examiner respectfully notes that Ljungblad clearly discloses that each pixel is individually addressed.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

See Notice of References Cited.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFERY WILLIAMS whose telephone number is (571)272-7965. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeffery Williams/
Examiner, Art Unit 2437

/Emmanuel L. Moise/
Supervisory Patent Examiner, Art Unit 2437